

Claims

- [c1] A bridge fitting for use in a fluid manifold system for being in fluid communication with one or more fluid components, such as valves, regulators, pressure transducers, mass flow controllers, and the like, the bridge fitting comprising:
a first fitting connected to a second fitting, with said connected fittings having an internal fluid passageway therethrough; said internal passageway of said bridge fitting having an inlet end and an outlet end, with said inlet end in fluid communication with an outlet port of the first fluid component, and said outlet end of said bridge fitting in fluid communication with an inlet port of a second fluid component.
- [c2] The bridge fitting of claim 1 further comprising a plurality of metallic seals interposed between and sealing the internal passageway of the bridge fitting with the port of the fluid component.
- [c3] The bridge fitting of claim 1 wherein the bridge fitting has a U shaped fluid passageway.
- [c4] A bridge fitting for use in a fluid manifold system for be-

ing in fluid communication with three or more fluid components, wherein one or more of said fluid components has a single port, the bridge fitting comprising: a first and second elbow fitting having a respective end connected to a tee fitting; said tee fitting being located between said elbow fittings; each of said elbow fittings and said tee fittings having an internal fluid passageway in fluid communication with each other; said internal passageway of said fittings having an inlet end and a first and second outlet end, with said inlet end in fluid communication with an outlet port of the first fluid component, and said outlet ends of said fluid passageway being in fluid communication with an inlet port of a second and third fluid component, respectively.

- [c5] A modular fluid manifold for connecting with one or more surface mount type fluid components having an inlet port and an outlet port, the modular system comprising:
- one or more bridge fittings having an internal fluid passageway therethrough; said internal passageway of said bridge fitting having an inlet end for connecting to an outlet port of the first fluid component, and an outlet end for connecting to an inlet port of the second fluid component, whereby said internal fluid passageway of said bridge fitting is in fluid communication with said

first and second fluid components when the system is assembled.

- [c6] The modular manifold of claim 5 further comprising: a backing plate for supporting said bridge fittings in a closely spaced manner and mounting said fluid components thereon, wherein said backing plate supports and connects said bridge fittings to said fluid components.
- [c7] The modular manifold of claim 5 wherein said backing plate further comprises a groove for insertion of said bridge fittings therein in a closely spaced manner.
- [c8] The modular manifold of claim 5 further comprising one or more seals for sealing the connection between said ends of the bridge fittings and the ports of the fluid components.
- [c9] The modular manifold of claim 5 further comprising a locator plate mounted between said fluid components and said backing plate; said locator plate further comprising aligned holes for mounting said fluid components thereon; said locator plate having port holes aligned for receiving said inlet and outlet ends of said bridge fittings therein such that said inlet and outlet ports of said components are in fluid communication with said inlet and outlet ends of said bridge fittings.

[c10] The modular manifold of claim 9 wherein a recess for receiving a gasket is provided between the locator plate upper surface and the inlet and outlet ends of said bridge fittings.

[c11] The modular manifold of claim 10 wherein said gasket is metal.

[c12] A modular fluid manifold for connecting with one or more fluid components comprising an inlet port and one or more outlet ports, the manifold system comprising: one or more bridge fittings having an inlet end and an outlet end and an internal passageway joining said ends therethrough;

a locator plate having an upper surface for mounting said fluid components thereon and a plurality of holes aligned with the inlet and outlet ports of said fluid components;

said locator plate having a lower surface for mounting said bridge fittings thereto; said inlet end of each of said bridge fitting being in fluid communication with an outlet port of a fluid component, and an outlet end of each of said bridge fittings being in fluid communication with an inlet port of another fluid component.

[c13] The modular system of claim 12 wherein a recess for re-

ceiving a gasket is provided between the locator plate upper surface and the inlet and outlet ends of said bridge fittings.

[c14] The modular system of claim 13 wherein said gasket is metal.

[c15] The modular system of claim 12 wherein retaining clips are provided to secure said bridge fittings to said locator plate.

[c16] The modular system of claim 12 wherein said ends of said bridge fittings are press fit into said holes of said locator plate.

[c17] The modular system of claim 12 wherein one or more of said bridge fittings further comprise a tee fitting located between a first and second elbow fitting; said tee fitting and said elbow fittings having an internal fluid passageway in fluid communication with each other; said tee fitting having a port opposite of said elbow fitting ports, and aligned to mate with a bridge fitting of another layer.